Understanding Preproduction Delays in Fire Program Analysis (FPA) Initial Response Simulation (IRS) Module IR_005_WP

Topic:

Fire Program Analysis (FPA) approach to processing Initial Response Simulation (IRS) module Preproduction Delays.

Introduction

Preproduction Delays represent the sum of all delays from initial fire detection until fireline production can begin on the fire. The Initial Response Simulation (IRS) module uses this delay data to adequately model and simulate fire scenario information. Determining Arrival Time at a modeled fire event is partially determined by the capability of the fire resource and the physical characteristic of the Fire Management Unit's (FMU) Fire Workload Area (FWA). The Preproduction Delays defined in this document clarify how the Arrival Time is calculated.

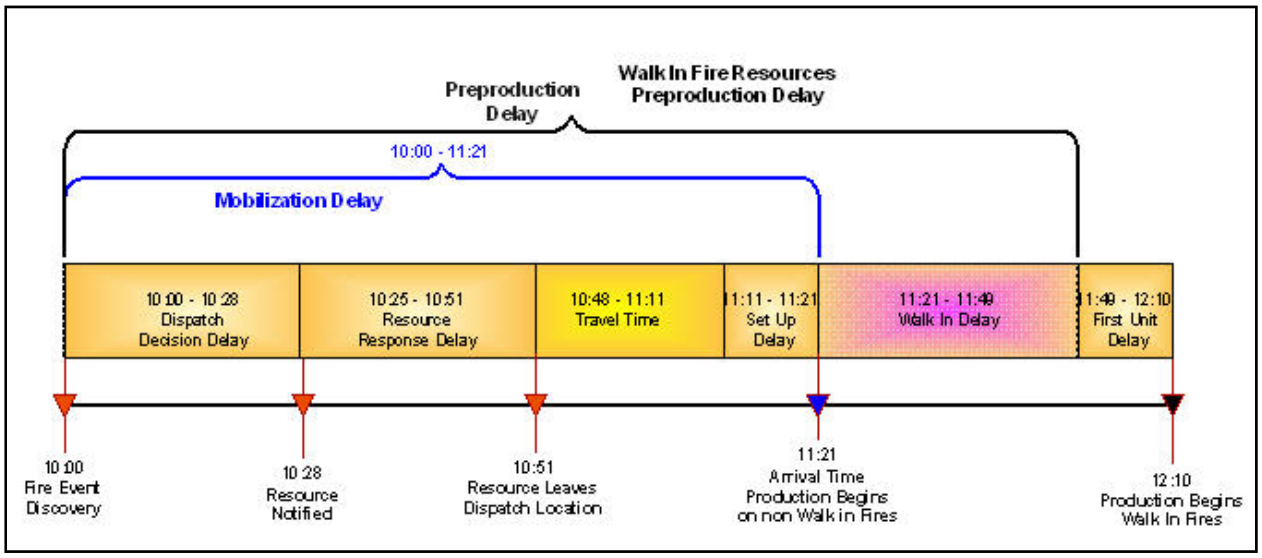

Figure 1: Walk-in Fire Resource Preproduction Delay

Discussion – Preproduction Delays

The following table defines the delay values used by the system.

Table 2: NWCG Pre-Production Delays Used in FPA

The following table describes delays listed above:

Delay	Description
Preproduction Delay	The accumulated time delays that apply to fire resources prior to the start of fire line production. This is the sum of all delays from first report of the fire until production can begin on the fire, and includes Dispatch Decision Delay, Resource Response Delay, Travel Time, Set-up Delay, and Walk in Delay. Figure 1 displays the Preproduction Delay timeline.
Dispatch Decision Delay	The time from fire event discovery, (including time to determine a response strategy), through FPU direction to send resources to a fire scene. Only FPA Data Administrator can edit this value using proper protocols.
Resource Response Delay	The time from when an FPU notifies fire resources to prepare for

Delay	Description
	fire duty until the fire resources leave the Dispatch Location. Only FPA Data Administrator can edit this value.
Travel Time	The Travel Time between the dispatch location and the FWA workload point, excluding delays. The FPA system calculates this value as the distance between Dispatch Location (DL) and Fire Workload Area (FWA) Travel Time Point (TTP) based on particular fire resource Producer Type. Travel Time = (distance DL to FWA TTP)/(average travel speed for the fire resource).
Set-up Delay	The time from the end of calculated travel time until fire resources are ready to produce or begin walk-in. Examples of Set-up Delay include: • Time to unload dozer from lowboy and size up fire; • Time to determine a landing spot, land, and unload a helicopter. Only FPA Data Administrator can edit this value.
Mobilization Delay	The FPA application treats the Dispatch Decision Delay, Resource Response Delay, and Set-up Delay as a single value for each Fire Resource Producer Type (for example, an engine or dozer). Only FPA Data Administrator can edit this value.
First Unit Delay	The typical time for the first arriving fire resource to size up the fire, identify escape routes, and best travel route to the fire. Only FPA Data Administrator can edit this value.
Walk-in Delay	The typical time, at the conclusion of Set-up Delay, for fire resources to travel cross-country to fires in walk-in FMUs or FWAs. A fire planning team should determine the Walk-in Delay based on a general or typical fire location in the FMU or FWA. The Walk-in Delay applies to FWAs identified as having a percentage of the FWA workload as walk-in fire events. When there is no walk-in fire workload defined, production begins at the conclusion of the Set-up Delay. Each FMU should document its method or rationale for calculating the Walk-in Delay. Only FPA Data Administrator can edit this value.
Arrival Time	Total time from Dispatch Decision Delay until a fire resource arrives at the fire and fireline production begins. This includes a

Delay	Description
	First Unit Delay if it is the first fire resource to arrive at the fire. See Mobilization Delay.

Table 2: Description of Pre-Production Delays Used in FPA

Dispatch Decision Delay, Resource Response Delay, and Set-up Delay are standard values determined by subject matter experts, and entered into the system (by the FPA Data Administrator) using lookup data by Fire Resource Producer Type.

See Also

- Understanding Smokejumper Deployment in FPA Initial Response Simulation (IRS)
- Understanding Helicopter Use in FPA Initial Response Simulation (IRS)